OIPE IAP17
OCT 06 2006
PATENT & TRADEMARK OFFICE

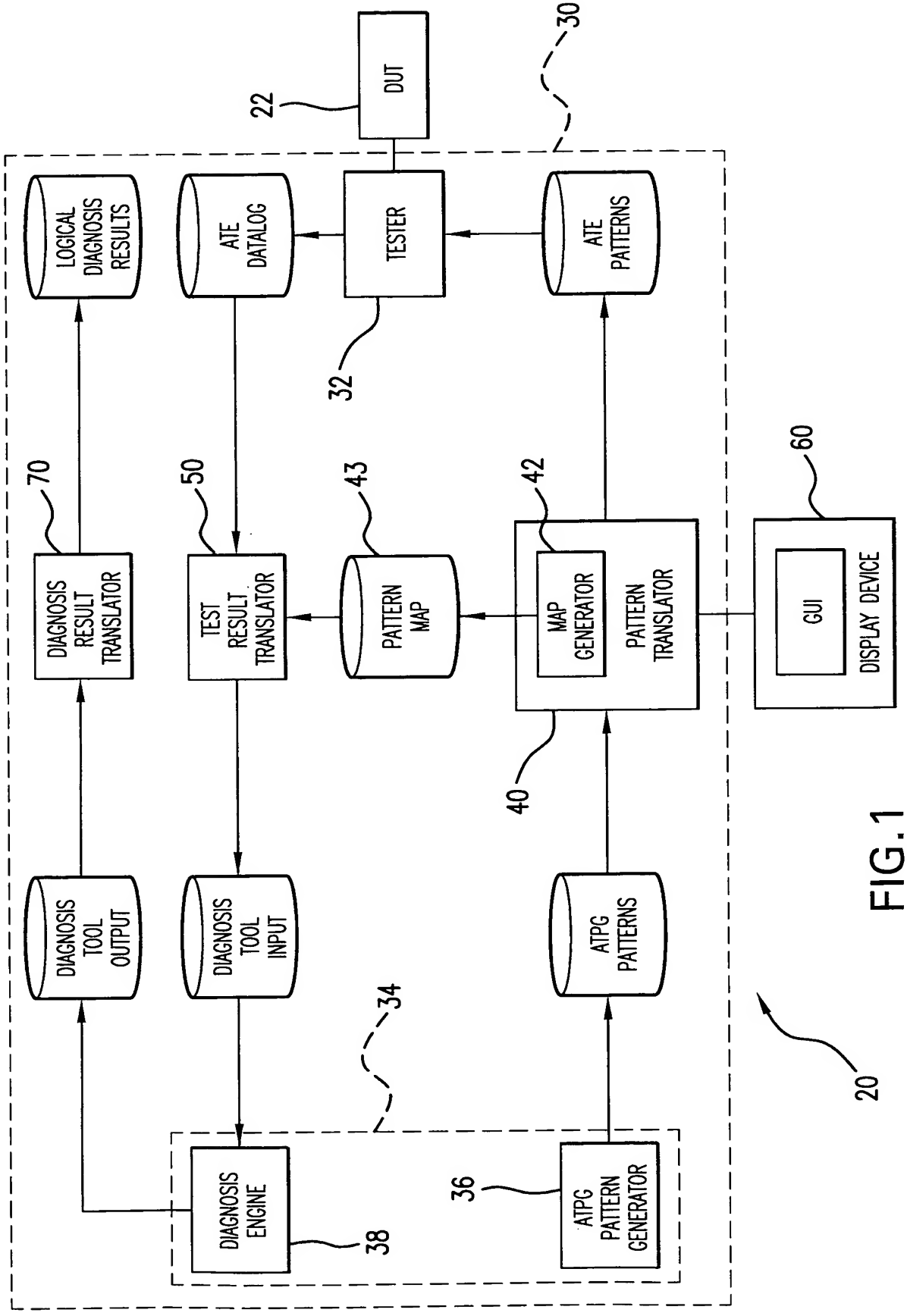

FIG. 1

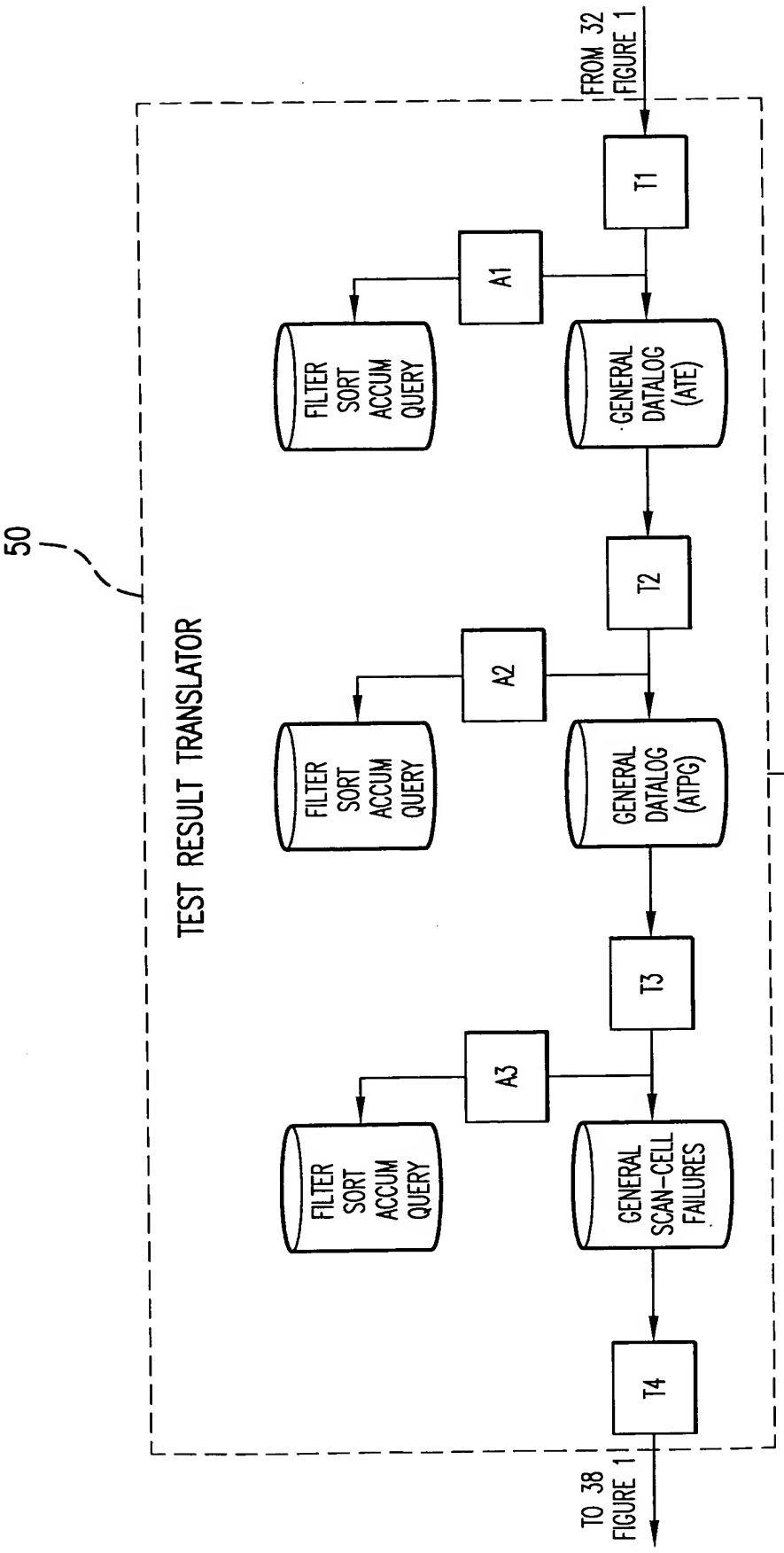
50
TEST RESULT TRANSLATOR
FROM 32 FIGURE 1
T1
A1
FILTER SORT ACCUM QUERY
GENERAL DATALOG (ATE)
T2
A2
FILTER SORT ACCUM QUERY
GENERAL DATALOG (ATPG)
FROM 42 FIGURE 1
T3
A3
FILTER SORT ACCUM QUERY
GENERAL SCAN-CELL FAILURES
T4
TO 38 FIGURE 1

FIG.2

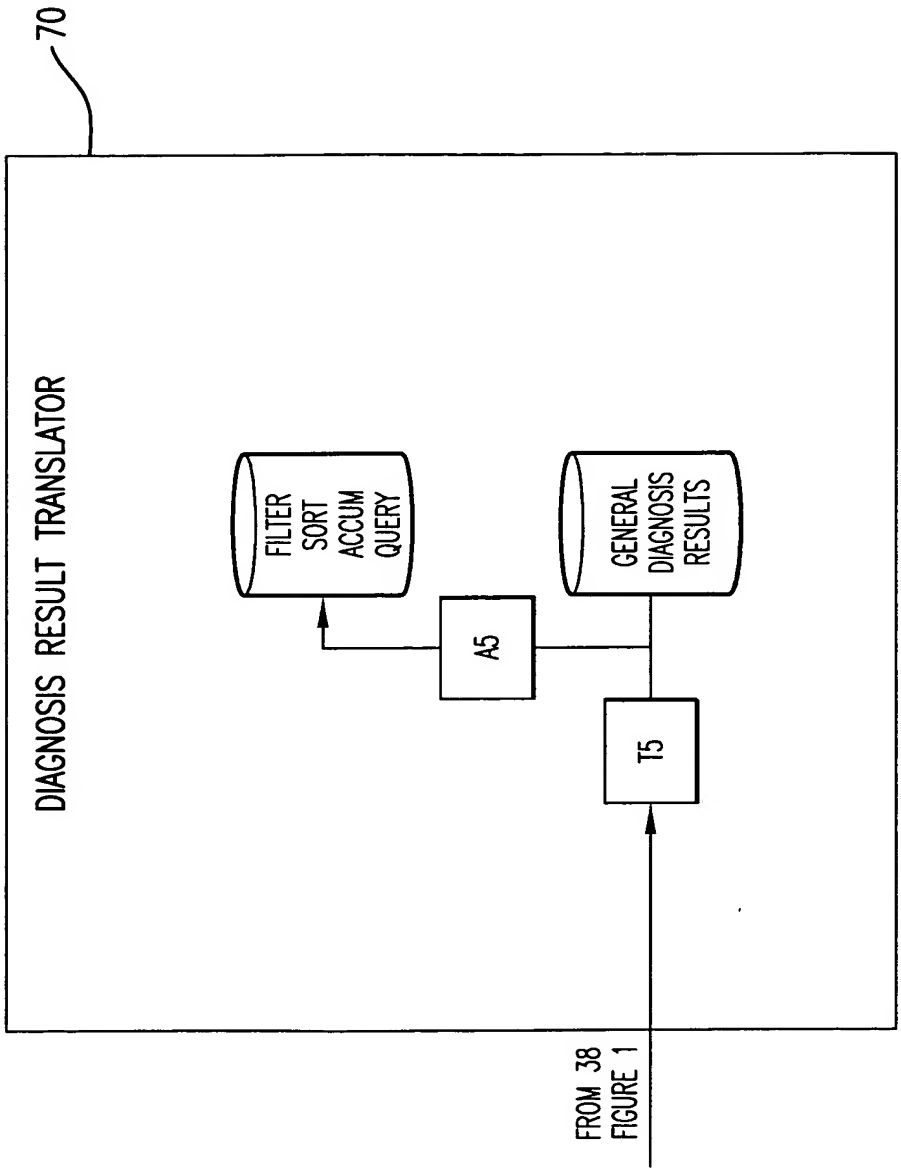
70
DIAGNOSIS RESULT TRANSLATOR
FILTER SORT ACCUM QUERY
GENERAL DIAGNOSIS RESULTS
A5
T5
FROM 38 FIGURE 1

FIG.3

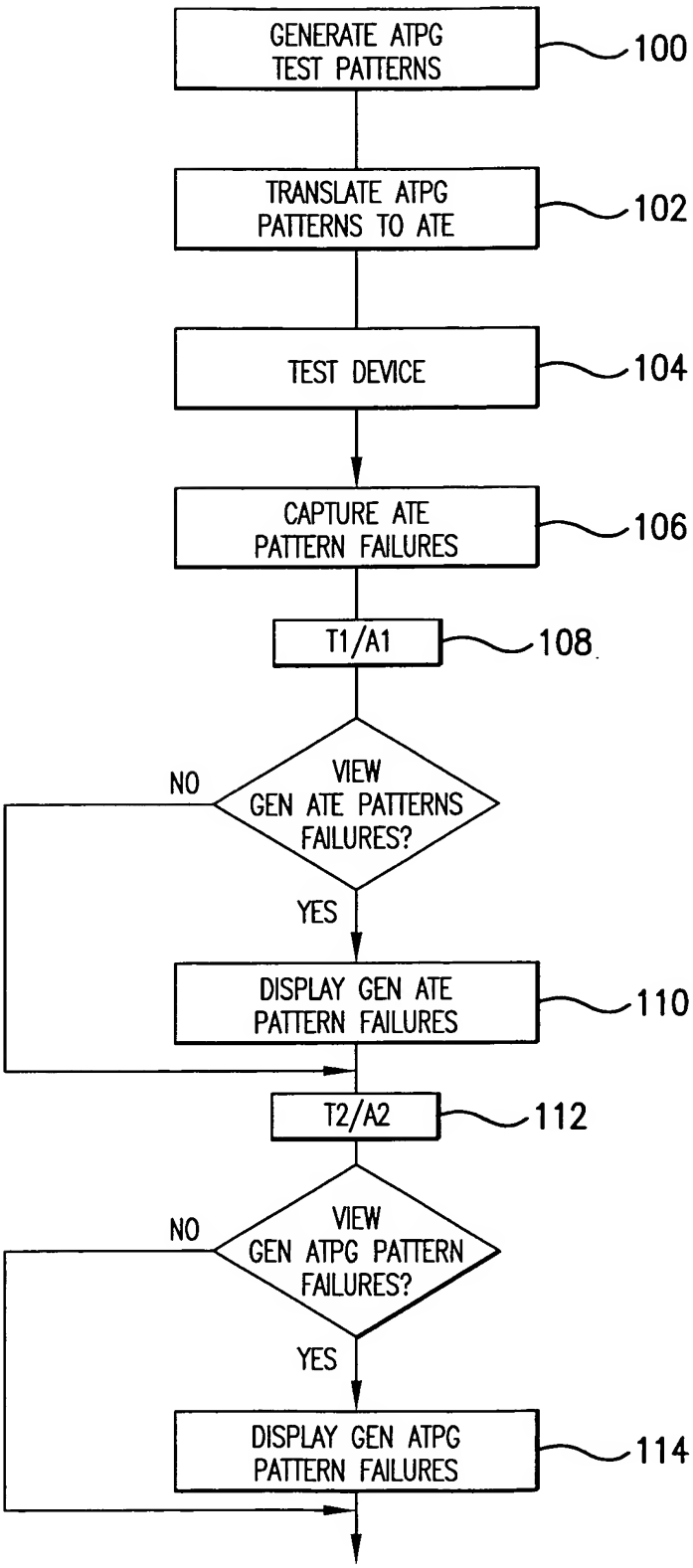

FIGURE 5

FIG.4

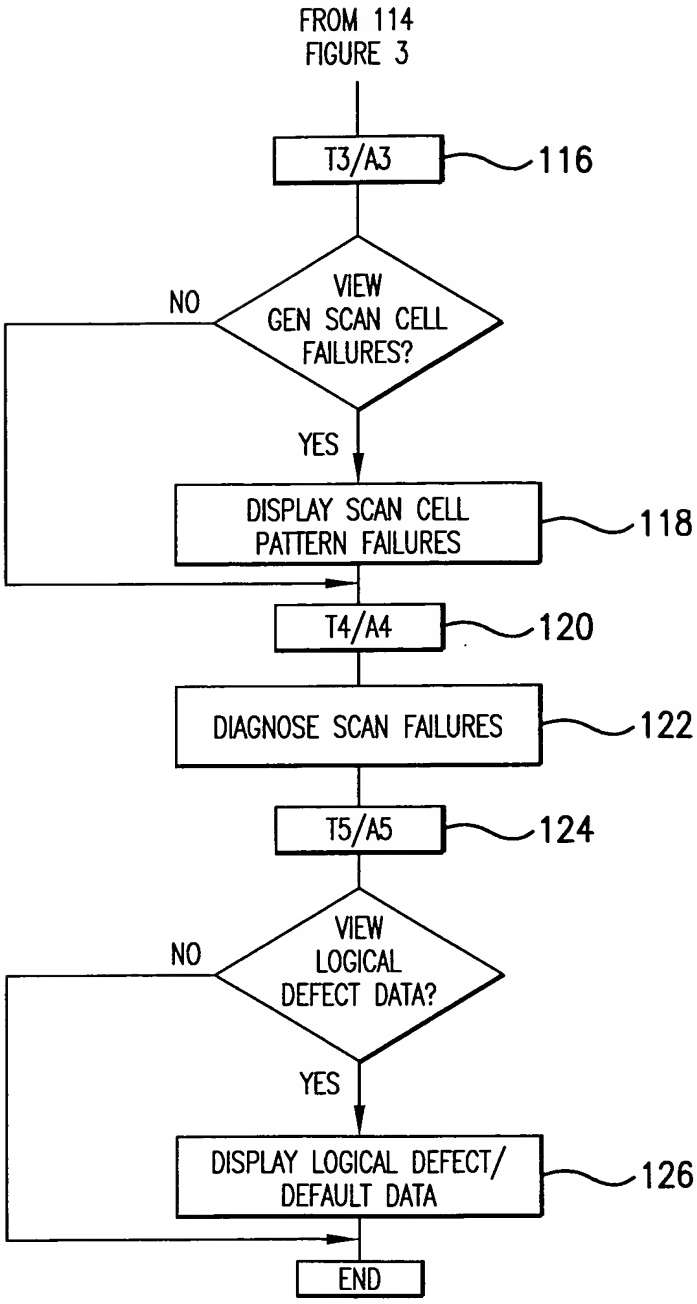
FROM 114
FIGURE 3
T3/A3
116
VIEW
GEN SCAN CELL
FAILURES?
NO
YES
DISPLAY SCAN CELL
PATTERN FAILURES
118
T4/A4
120
DIAGNOSE SCAN FAILURES
122
T5/A5
124
VIEW
LOGICAL
DEFECT DATA?
NO
YES
DISPLAY LOGICAL DEFECT/
DEFAULT DATA
126
END

FIG.5

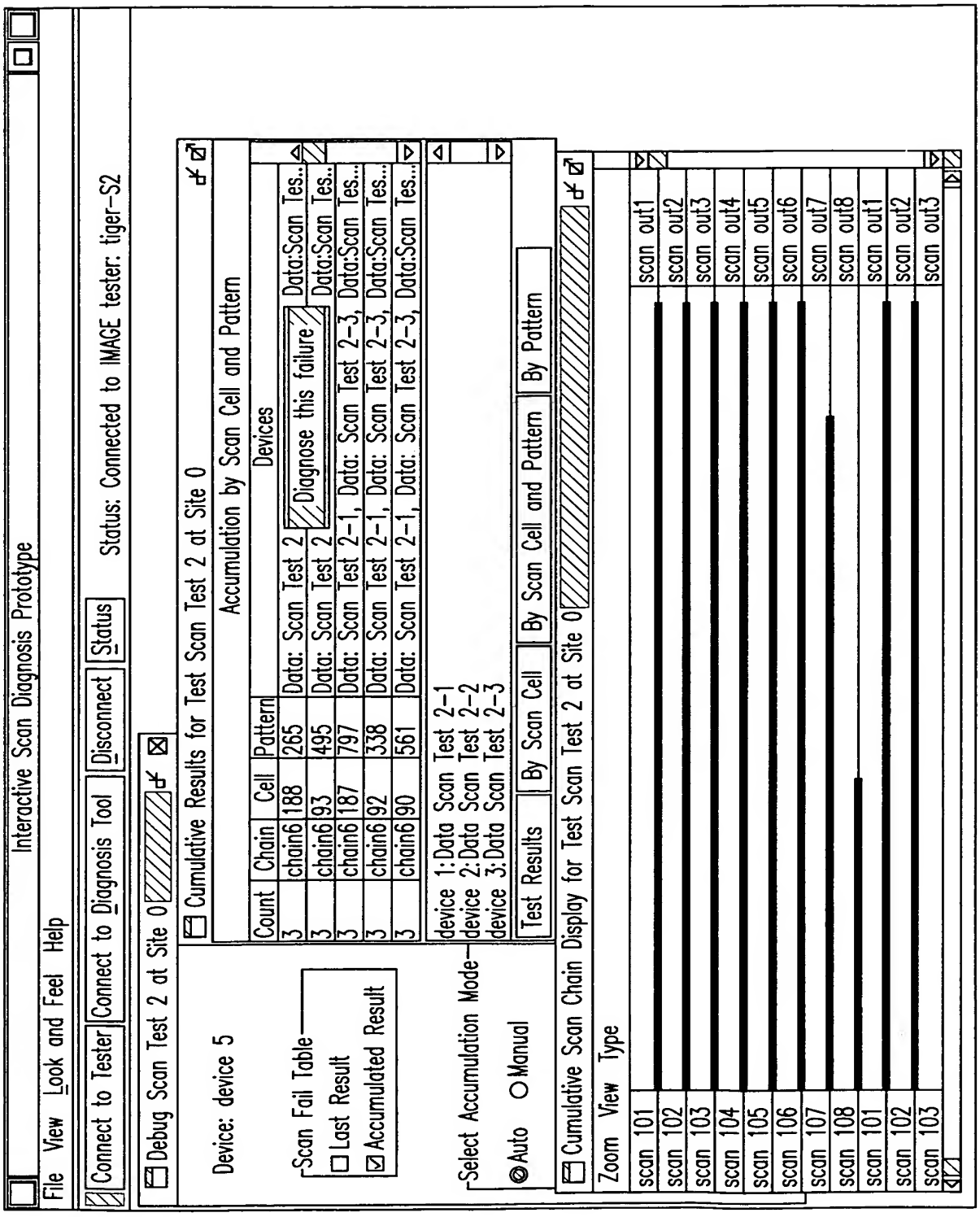
Interactive Scan Diagnosis Prototype
File View Look and Feel Help
Connect to Tester
Connect to Diagnosis Tool
Disconnect
Status
Status: Connected to IMAGE tester: tiger-S2
Debug Scan Test 2 at Site 0
Device: device 5
Scan Fail Table
Last Result
Accumulated Result
Select Accumulation Mode
Auto
Manual
Cumulative Results for Test Scan Test 2 at Site 0
Accumulation by Scan Cell and Pattern
Count
Chain
Cell
Pattern
Devices
3 chain6 188 265 Data: Scan Test 2 Diagnose this failure Data:Scan Tes..
3 chain6 93 495 Data: Scan Test 2 Data:Scan Tes..
3 chain6 187 797 Data: Scan Test 2-1, Data: Scan Test 2-3, Data:Scan Tes...
3 chain6 92 338 Data: Scan Test 2-1, Data: Scan Test 2-3, Data:Scan Tes...
3 chain6 90 561 Data: Scan Test 2-1, Data: Scan Test 2-3, Data:Scan Tes...
device 1: Data Scan Test 2-1
device 2: Data Scan Test 2-2
device 3: Data Scan Test 2-3
Test Results
By Scan Cell
By Scan Cell and Pattern
By Pattern
Cumulative Scan Chain Display for Test Scan Test 2 at Site 0
Zoom View Type
scan 101
scan 102
scan 103
scan 104
scan 105
scan 106
scan 107
scan 108
scan 101
scan 102
scan 103
scan out1
scan out2
scan out3
scan out4
scan out5
scan out6
scan out7
scan out8
scan out1
scan out2
scan out3

FIG.6

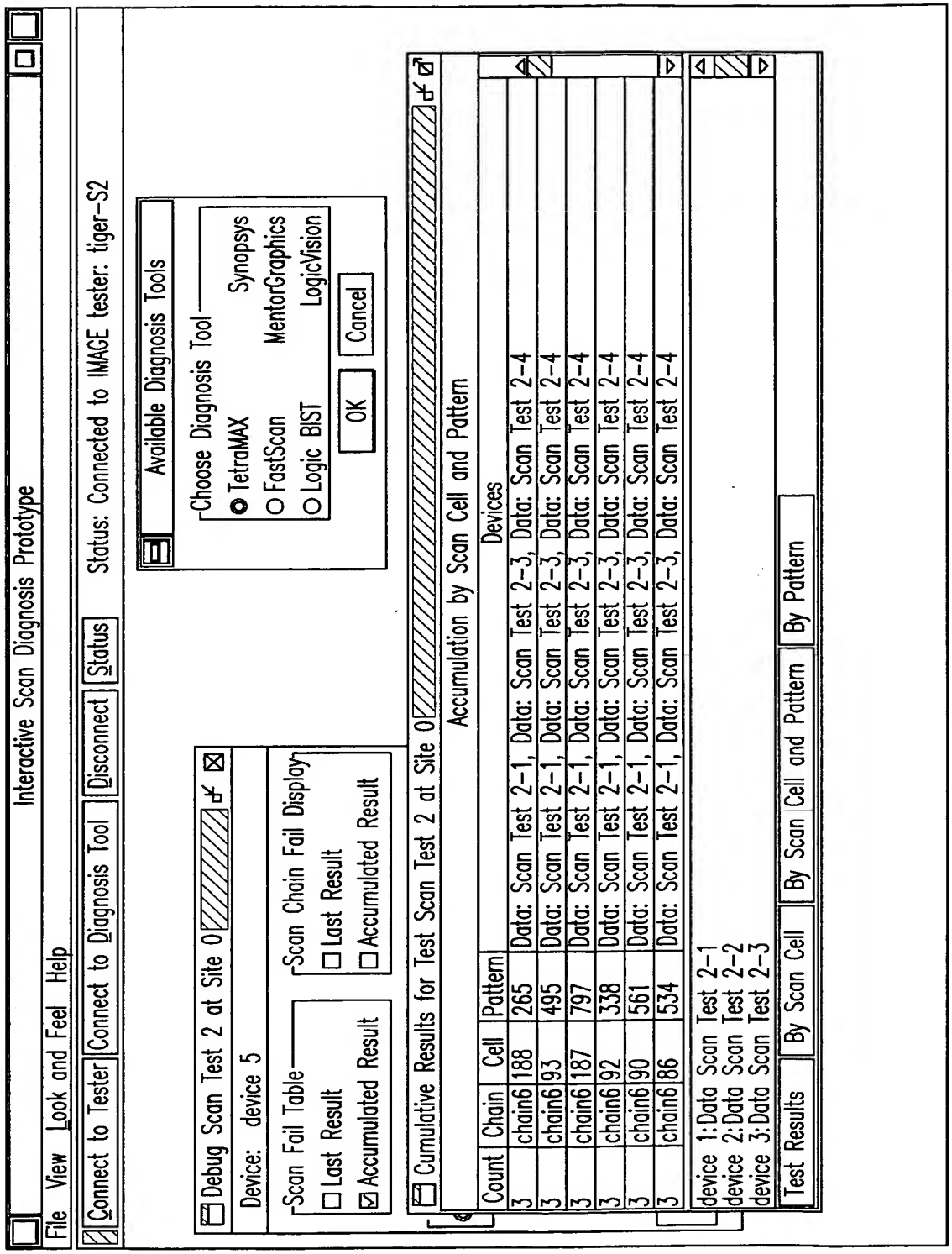
Interactive Scan Diagnosis Prototype
File View Look and Feel Help
Connect to Tester
Connect to Diagnosis Tool
Disconnect
Status
Status: Connected to IMAGE tester: tiger-S2
Debug Scan Test 2 at Site 0
Device: device 5
Scan Fail Table
Last Result
Accumulated Result
Scan Chain Fail Display
Last Result
Accumulated Result
Available Diagnosis Tools
Choose Diagnosis Tool
TetraMAX
FastScan
Logic BIST
Synopsys
MentorGraphics
LogicVision
OK
Cancel
Cumulative Results for Test Scan Test 2 at Site 0
Accumulation by Scan Cell and Pattern
Devices
Count Chain Cell Pattern
3 chain6 188 265 Data: Scan Test 2-1, Data: Scan Test 2-3, Data: Scan Test 2-4
3 chain6 93 495 Data: Scan Test 2-1, Data: Scan Test 2-3, Data: Scan Test 2-4
3 chain6 187 797 Data: Scan Test 2-1, Data: Scan Test 2-3, Data: Scan Test 2-4
3 chain6 92 338 Data: Scan Test 2-1, Data: Scan Test 2-3, Data: Scan Test 2-4
3 chain6 90 561 Data: Scan Test 2-1, Data: Scan Test 2-3, Data: Scan Test 2-4
3 chain6 86 534 Data: Scan Test 2-1, Data: Scan Test 2-3, Data: Scan Test 2-4
device 1: Data Scan Test 2-1
device 2: Data Scan Test 2-2
device 3: Data Scan Test 2-3
Test Results
By Scan Cell
By Scan Cell and Pattern
By Pattern

FIG. 7

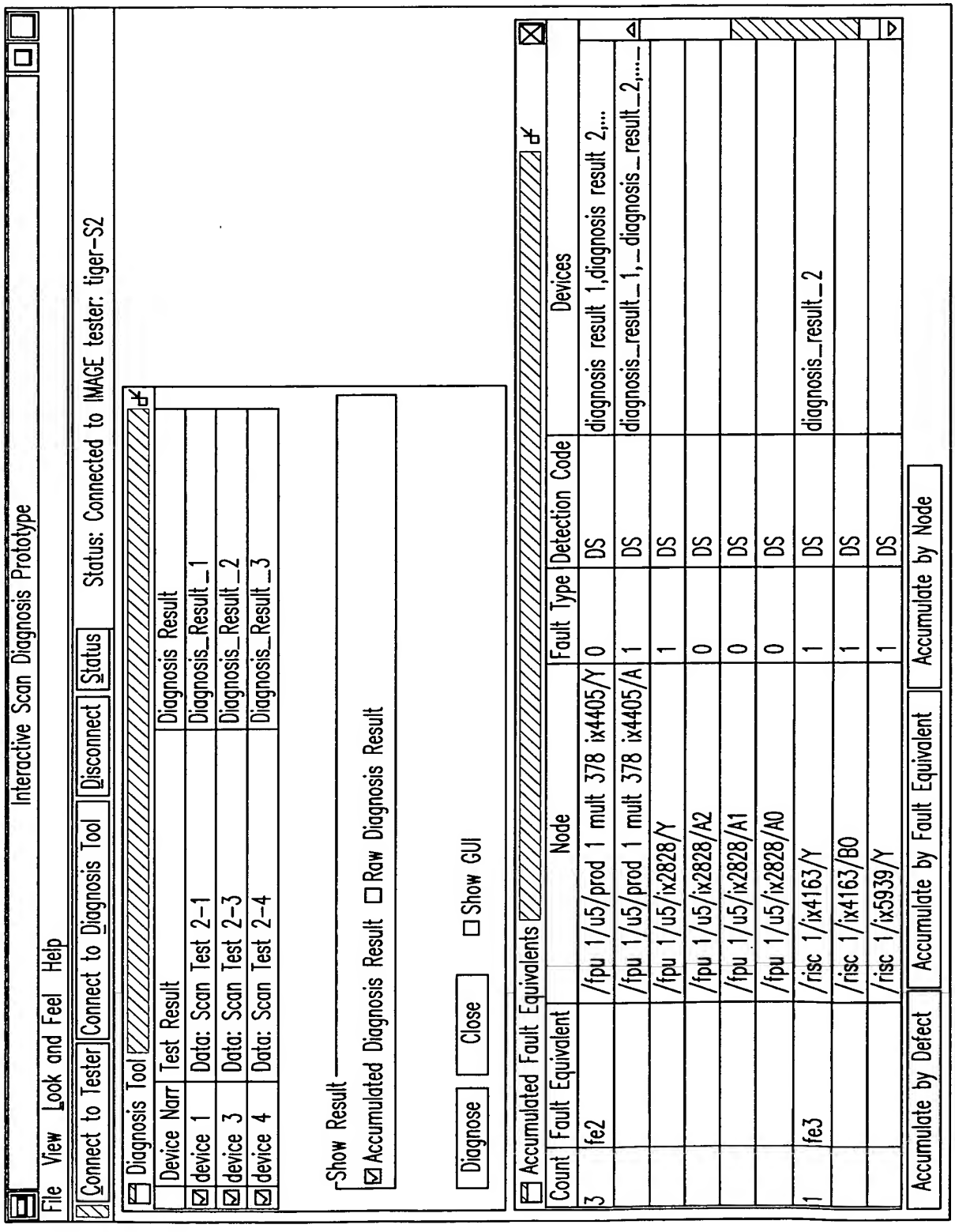
Interactive Scan Diagnosis Prototype
File View Look and Feel Help
Connect to Tester
Connect to Diagnosis Tool
Disconnect
Status
Status: Connected to IMAGE tester: tiger-S2
Diagnosis Tool
Device Narr
Test Result
Diagnosis Result
device 1
Data: Scan Test 2-1
Diagnosis_Result_1
device 3
Data: Scan Test 2-3
Diagnosis_Result_2
device 4
Data: Scan Test 2-4
Diagnosis_Result_3
Show Result
Accumulated Diagnosis Result
Raw Diagnosis Result
Diagnose
Close
Show GUI
Accumulated Fault Equivalents
Count
Fault Equivalent
Node
Fault Type
Detection Code
Devices
3
fe2
/fpu 1/u5/prod 1 mult 378 ix4405/Y
0
DS
diagnosis result 1,diagnosis result 2,...
/fpu 1/u5/prod 1 mult 378 ix4405/A
1
DS
diagnosis_result_1,_diagnosis_result_2,...
/fpu 1/u5/ix2828/Y
1
DS
/fpu 1/u5/ix2828/A2
0
DS
/fpu 1/u5/ix2828/A1
0
DS
/fpu 1/u5/ix2828/A0
0
DS
1
fe3
/risc 1/ix4163/Y
1
DS
diagnosis_result_2
/risc 1/ix4163/B0
1
DS
/risc 1/ix5939/Y
1
DS
Accumulate by Defect
Accumulate by Fault Equivalent
Accumulate by Node

FIG.8